



The Comptroller General  
of the United States

Washington, D.C. 20548

134847

## Decision

Matter of: GSA's Post-Payment Examination of Utility  
Invoices by Statistical Sampling

File: B-227682

Date: January 15, 1988

### DIGEST

The General Accounting Office has no objection in principle to a General Services Administration (GSA) proposal to combine elements of fast pay procedures and statistical sampling to pay and audit utility invoices, even though payments involved may be larger than normally associated with statistical sampling procedures. However, a valid sampling plan should be carefully designed and documented to provide for effective monitoring, meaningful sampling of all invoices not subject to 100 percent audit, audit emphasis commensurate with the risk to the government, and a basis for the certification of payments. In our opinion, GSA, with appropriate modification to current proposal, could develop a valid statistical sampling plan to meet these requirements.

### DECISION

This advance decision to the General Services Administration (GSA) is in response to a request from Raymond A. Fontaine, GSA Comptroller, requesting our approval under 31 U.S.C. § 3521 (1982), of a change in the procedures GSA employs to estimate and audit utility bills.<sup>1/</sup> As will be explained in greater detail later in this decision, we have no objection to a proposal by GSA to combine elements of fast pay procedures and statistical sampling techniques to examine utility invoices, even though invoice amounts exceed the

<sup>1/</sup> We note that 31 U.S.C. § 3521(a) provides authority for waiver of agency administrative audit with the consent of the Comptroller General. However, since GSA's submission requests approval of a sampling procedure, we assume its request is for approval of a statistical sampling procedure pursuant to the authority of 31 U.S.C. § 3521(b)-(d). In any event, subsection (a) was enacted at a time when GAO performed post-payment "account settlement" audits. Since that time, we have come to rely increasingly on agency internal audits for account settlement purposes. Thus, waiver under subsection (a) now would rarely, if ever, be appropriate.

041048

limit established by our standards for using statistical sampling. Furthermore, although we cannot approve GSA's proposed sampling plan at this time since it does not meet the requirements of a valid statistical sampling plan, GSA could meet these requirements by making appropriate modifications to its current proposal.

#### GSA'S PROPOSAL

GSA proposes to improve the techniques employed to achieve "fund control"<sup>2/</sup> objectives by revising its process for estimating monthly utility bills in advance (called "accruals" by GSA). GSA also proposes to use sampling procedures in its post-payment audit of utility bills (called "certifications" by GSA). GSA suggests that the proposed changes will be more cost effective than those currently employed without unduly increasing the government's risk exposure by permitting overpayments of utility bills to go unidentified and uncorrected.

Currently, GSA estimates monthly accruals for utility services based upon the most recent monthly payment to vendors. When the later payment is made against that accrual, the outstanding obligation is adjusted to reflect the actual cost of the services received. In addition, GSA's Central Accounts Payable Office currently pays invoices for utility services immediately upon receipt and prior to audit in order to comply with Prompt Payment Act requirements and to avoid any late payment charges. The Central Accounts Payable Office then sends copies of the paid bills to the Public Building Service (PBS) in order for the PBS to conduct the post-payment examination (certification)<sup>3/</sup> of the invoice's accuracy. In addition, the

---

<sup>2/</sup> The term "fund control" refers to control over the use and management of appropriations to ensure that (1) funds are used only for authorized purposes, (2) they are economically and efficiently used, (3) obligations and expenditures do not exceed the amounts authorized and available, and (4) the obligation or disbursement of funds is not reserved or otherwise withheld without congressional knowledge and approval. See GAO, Policy and Procedures Manual for Guidance of Federal Agencies, tit. 2, app. I, F50.01 (TS 2-24, October 31, 1984).

<sup>3/</sup> We note that when GSA speaks of "certification" of invoices in its submission, it is not speaking of certifying a voucher for payment since payment has already been made by the time GSA "certifies" the invoice. Instead, it is

(continued...)

Central Accounts Payable Office needs records to assure the post-payment examination (certification) of all invoices. Thus, under the current system, it appears that GSA contemplates a 100 percent post-examination of the accuracy of paid invoices.

GSA points out in its submission that the current method of estimating utility costs based on the most recent payment causes difficulties, given the significant seasonal fluctuations inherent in utility services. Thus, fund control is significantly weakened due to the inability to make accurate projections. GSA is also concerned that the current process of post-payment examination requires a significant amount of clerical labor. To address these concerns, GSA has proposed a new procedure which interrelates the method of estimating utility costs with the method of examining paid invoices for utility services.

GSA proposes to establish monthly estimates that are derived from historical data accumulated over the last 2 years in conjunction with estimates of current usage. The estimates therefore should provide for expected seasonal fluctuations. GSA indicates that the PBS will be able to make cost projections that very closely approximate actual costs since utility charges are based on fixed rate schedules. In view of this expected accuracy in estimating costs, it is

---

3/(...continued)

Speaking of the post-payment examination of the invoice to determine its accuracy.

GSA's certification involves: (1) verifying the actual meter readings against the meter reading on the invoice; (2) comparing the beginning meter readings of the current statement to the ending readings of the previous statement; and (3) verifying the arithmetic accuracy of the invoicing statement. See "Accounting Operations Voucher Examination Payment Handbook," PFM P 4252.1, ch. 13-14. GSA also prescribes that the principal items that should be reviewed when checking bills include meter reading, dial indication, the use of multipliers, the demand rate, the calculations of the applicable rates used, power factor penalties, fuel adjustment charges, and environmental adjustment charges. The electric meter should be checked for accuracy in accordance with the frequency established by local regulations or whenever the meter appears to be malfunctioning. See PBS P 5800.35, ch. 6-7e and f. Inherent in this process is the ability to identify and apply the proper utility tariff to the government, and to determine whether the utility is collecting any taxes (or surcharges) levied on customers but from which the United States may be immune.

expected that post-payment audit of all utility bills will no longer be necessary.

Instead of a 100 percent post-payment audit of paid utility invoices, GSA would only audit those invoices which exceed GSA's estimates of utility costs for the corresponding month. While all invoices would still be directed to the PBS for review and analysis for improprieties, no further post-payment examination would be required of invoices which do not exceed the accrued estimates.

In addition, GSA proposes internal controls to prevent recurring overstatements of accrual estimates by means of a monthly sampling of 1 percent of payments for the prior 3 months to the vendors on record. GSA proposes to examine all payments made over the last 3 months to the vendors sampled in order to determine if GSA's estimates of monthly costs based on historical vendor billings exceed invoice payments actually made. If, in any case, historical billings exceed payments by 15 percent, PBS will be notified to make appropriate adjustments to its records and a recalculation of the future accrual estimates will be requested.

In effect, under the GSA proposal, the requirement for PBS to perform post-payment examinations of paid utility invoices in addition to the 1 percent sample described above will be dispensed with except in those cases where the vendor's bill exceeds GSA's estimate.

GSA states in this connection:

"In effect, PBS will be pre-certifying utility payments for the amount of the accrual. We feel that this is acceptable given the nature of utility services. As mentioned above, PBS is able to forecast utility costs per month with a high degree of accuracy. Utility services are an essential and recurring element of services provided to the Federal Government by PBS. The vendors involved are generally sole providers of these services in their localities, operating under Federal and/or state regulatory bodies. This environment promotes stability and security to both vendor and customer. Formal contracts are generally not required, as rate schedules act as informal contracts. As utility services are recurring in nature, GSA can readily adjust future payments for inequities in past billings.

"Inherent in the certification of invoices for utility services is the relative inability of PBS

to verify the meter readings cited on an invoice with any precision. As utility companies, in most cases, are unable to inform their customers concerning the exact time that a meter will be read, we are forced to certify invoices as long as the readings cited fall within a range consistent with those taken by PBS building managers. While this method is not precise, significant errors in the misreading of meters will be detected and overcharges recouped against future month's payments.

"The detection of significant billing errors would not be affected by the proposed certification method, as copies of all invoices paid will continue to be provided to PBS for their internal verification and analysis. Where errors in the meter readings are not discovered due to their insignificance, under or overpayments made in a current month tend to be recouped, as the inverse should be true in the following month."

#### ANALYSIS

##### 1. Preaudit vs. Postaudit

Generally, the preaudit of vouchers is required by audit standards set forth in the GAO Policy and Procedures Manual for Guidance of Federal Agencies, tit. 7, § 20.2 (TS 7-41, January 18, 1985). The preaudit is deemed necessary in order to protect the financial interests of the government. Exceptions to the preaudit requirement are allowed, for example, in order to permit agencies to take advantage of prompt payment discounts or to effect other economies (including the avoiding of late payment charges or interest under the contract or under laws such as the Prompt Payment Act).<sup>4/</sup>

The common thread supporting these exceptions is that savings to be achieved by procedures which dispense with the preaudit requirement will exceed any losses from overpayments which would have been prevented by preaudit. Generally, the situations involve a large number of recurring transactions with known reputable vendors. In these situations, post-payment audit of invoices and, when necessary, adjustment of overpayments against future

---

<sup>4/</sup> See, for example, Payment of Goods in Advance of Notification of Receipt, 60 Comp. Gen. 602 (1981); VA Centralized Accounting Local Management Systems, B-205868, June 14, 1982, and decisions cited therein.

billings, minimize the government's risk of loss. In the past, post-payment audits have been used when the individual transactions involved, while numerous, were relatively small in dollar amounts. Admittedly, some utility billings may be large. However, we do not believe the amount of the transactions involved alters the acceptable nature of the fast pay procedure when an ongoing relationship with reputable vendors is present and thus offers the same opportunity for adjustment of overpayments discovered during post-payment audits. In this regard, while the amount of individual payments is larger, the impact of the fast pay procedures in effecting economies is also larger since the prompt payment discounts taken advantage of, and any late payment charges avoided, are also larger. Thus, the fact that many monthly utility bills can be relatively large in dollar amount should not preclude the use of fast pay procedures in appropriate circumstances.

However, GAO's approval of fast pay procedures in the past has been based on the assumption that agencies would conduct post-payment audits involving 100 percent of the billings in order to identify potential overcharges and to permit recovery by adjustments to future billings.<sup>5/</sup>

## 2. Statistical Sampling

Section 3521 of title 31 authorizes the head of an agency to prescribe statistical sampling procedures to audit agency vouchers when the head of the agency decides that economies will result. Any disbursing or certifying official relying in good faith on the statistical sampling procedure adopted by the agency to disburse funds or certify a voucher for payment may not be held liable for any loss to the government resulting from a payment or certification of a voucher not audited specifically because of the use of the statistical sampling procedure.<sup>6/</sup>

---

<sup>5/</sup> While we have approved the use of statistical sampling to review aspects of fast pay procedures to assure that they are being adequately implemented, we have not expressly authorized its use in post-payment audits. See decisions cited in footnote no. 4, supra.

<sup>6/</sup> 31 U.S.C. § 3521(b)-(d) was enacted in response to a ruling by the Comptroller General that in the absence of statutory authority, reliance upon a statistical sampling plan for the internal examination of vouchers prior to certification for payment would not operate to relieve a certifying official from liability under 31 U.S.C. § 3528 (1982) (formerly 31 U.S.C. § 82c). 43 Comp. Gen. 36 (1963).

The law authorizes the Comptroller General to prescribe the maximum amount of the voucher that may be audited under the statistical sampling procedure and to evaluate the effectiveness of these procedures as part of GAO's accounting system review. Statistical sampling is currently authorized for vouchers not in excess of \$1,000 and is required to conform to the requirements of title 3 of the GAO Policy and Procedures Manual for Guidance of Federal Agencies.<sup>7/</sup>

We have no objection to authorizing, in appropriate circumstances, GSA's use of a statistical sampling technique for auditing vouchers in excess of the of \$1,000 currently authorized, if the economic benefit to the government exceeds the risk of loss to the government as a result of using the proposed system. GSA's proposal would require a waiver of any ceiling on the amount of the transactions subject to sampling since the amount of some invoices exceed \$1,000.

We note that GSA's proposal involves the use of post-payment examinations. While, as we indicated earlier, one of the grounds for approving fast pay procedures over the years has been the assumption that 100 percent post-payment audits would be employed as a means of protecting the government's interests, we concur in the view that the government's interests may also be adequately protected in a fast pay environment by using statistical sampling.<sup>8/</sup> Inherent in the congressional authorization for agencies to use statistical sampling is the recognition that 100 percent audits are not always necessary to protect the government's interests. Similarly, inherent in our authorization of agencies' use of fast pay procedures is recognition of the fact that preaudits of vouchers are not always necessary to protect the government's interests. We see no reason why

---

<sup>7/</sup> 7 GAO-PPM § 19.4. (TS 7-41 Jan. 18, 1985).

<sup>8/</sup> Statistical sampling in the traditional sense contemplated by 31 U.S.C. § 3521 is a method for examining vouchers prior to certification for payment. GAO Policy and Procedures Manual for Guidance of Federal Agencies, tit. 3, § 42.

these two techniques cannot be combined in appropriate circumstances if they result in economies and adequately protect the interests of the government.

However, while we have no objection to these two aspects (fast pay coupled with statistical sampling) of GSA's plan, other aspects of GSA's proposal do not meet the requirements of a valid statistical sampling plan<sup>9/</sup> and thus preclude our approving the plan at this time. However, in our opinion GSA could meet these requirements by making appropriate modifications to its current proposal.

Generally, when statistical sampling is properly employed, the sample taken should give a picture of 100 percent of the universe covered by the sample without having to review 100 percent of the universe. Based upon the information disclosed by the sample, one then has a basis for drawing conclusions about the status of the universe sampled within identified limits, and can make decisions based upon these conclusions. While the sample universe may be stratified (subuniverse) and each strata submitted to a different sample necessitated by the special conditions of that strata, the sample taken must be adequate to disclose the condition of that strata to permit reliable decisions within recognized limits for errors concerning that strata. Generally, the risk of loss incurred by the government because it has not audited each voucher is offset by the cost savings affected by using the statistical sampling technique.<sup>10/</sup> GSA proposes (1) to audit any bill which

---

9/ Current requirements are found in 3 GAO-PPM, Ch. 5, Secs. 45-51.

10/ GSA has not identified the specific savings it feels will be effected through use of the post-payment invoice examination system it proposes to employ. This is fundamental to assessing the propriety of any statistical sampling technique. As we point out in 3 GAO-PPM Sec. 49:

" . . . statistical sampling should be applied when a reduction in current auditing costs is attainable. The measure of savings is the difference between the cost of examining all the vouchers and the costs of the sample examination plus the amount of the undetected errors in the vouchers not examined."

While GSA has claimed savings it has not specifically identified where these savings are effected (other than a reduction in the number of invoice copies generated for

(continued...)



exceeds the monthly estimate and (2) to sample monthly 1 percent of the vendors of record.

In the first situation, a 100 percent audit is contemplated and thus statistical sampling is not involved. In the second situation, the review seeks only to determine if GSA's estimate exceeds invoices for a 3-month period by more than 15 percent in order to adjust GSA's estimates.<sup>11/</sup> However, this review ignores the fundamental question of whether the invoices themselves are accurate. Thus, the proposal does not disclose the condition of the universe sampled for the purpose of determining the accuracy of the paid invoices (within some tolerable limit) or to provide a basis for GSA to determine whether to take additional steps, including expanding the sample (when the limit is exceeded) and recovering any overpayments identified.<sup>12/</sup>

While GSA's estimates (if properly supported by identifiable data and periodically tested for accuracy) of billings might serve as a starting point for determining the size of the sample for invoices falling above or below the estimates, it cannot serve as a basis for forgoing the invoice examination altogether since the status of unreviewed invoices will be totally unknown. While the rate of error

---

<sup>10/</sup>(...continued)

audit purposes) and in what amounts. Furthermore, it has provided nothing regarding potential losses resulting from implementation of the proposed system.

<sup>11/</sup> GSA has indicated that invoices below the estimates will be provided to PBS for internal verification and analysis although no further certification examination for accuracy will be required. We have been informally advised that these invoices will be used by PBS to review utility consumption within buildings and to review utility rates for management purposes.

<sup>12/</sup> We note that even if the vendors are audited once every 8 years and 4 months (based upon the proposed 1 percent per month sampling of vendors), GSA proposes taking no action if the estimates are less than 15 percent above the vendor's invoices for the last 3 months. Aside from the fact that a 14 percent margin of error appears rather high in view of the fact that GSA has assured us that it will be capable of making very accurate estimates, this could result in erroneous payments to vendors going undetected for very long periods of time unless the vendor during some month submits a bill for more than GSA's estimate.

may vary between invoices above GSA's estimate and invoices below GSA's estimate, we are not persuaded that errors will not exist in the invoices falling below GSA's estimate, an assumption inherent in GSA's proposal. Furthermore, the more appropriate unit for sampling would appear to be the invoice rather than the vendor since some vendors provide more than one utility service, and the variation among vendors' billings from month to month could be large. These differences could result in the same amount of resources being allocated to a review of vendors involving larger dollar billings and those involving smaller dollar billings. Also the tendency of some vendors towards inaccuracy might necessitate that GSA stratify its sample based upon regions in order to allocate more attention and resources to those areas shown to be unreliable when developing or maintaining the sample.

### 3. Matters For Consideration by GSA

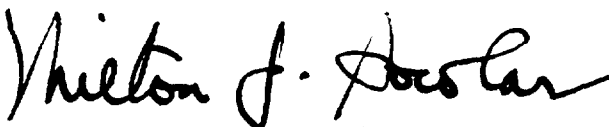
We are of the opinion that the concept of limiting risk by means of specific invoice strata and categories, as has been done in existing statistical sampling programs, could be incorporated into a statistical sampling plan for GSA's utility payments. The specifics of such a plan would have to be developed by GSA. However, such a plan should provide audit emphasis commensurate with the risk to the government; and, pursuant to 31 U.S.C. § 3521(b), it would need to provide for some meaningful sampling of all invoices not subjected to 100 percent audit. It must also provide a reliable and defensible basis for the certification of payments.

It seems evident that any useful plan will require a departure from the dollar limitations currently observed for statistical sampling procedures. Analysis of audit data may identify higher dollar thresholds for particular types of invoices below which statistical sampling would be appropriate. If so, this analysis could be the basis for an exception to the \$1,000 limitation.

An alternative might be to combine sampling techniques with the ability described in GSA's submission to accurately estimate utility invoices. The estimated billings might be the basis for establishing appropriate strata, which would then be subjected to specific sampling criteria. These strata and these criteria could be modified as experience dictates, and in fact, could vary according to the nature and extent of problems experienced in different regions, with different utility companies, with various rate structures, and so forth. As an example, the plan might require (1) 100 percent audit of invoices that exceed estimates by some tolerance limit, such as 5 percent;

(2) relatively light, but statistically meaningful, sampling of all vouchers that fall below such a tolerance limit; and (3) even lighter, but still statistically meaningful, sampling of vouchers that approximate the estimates, that is, that are within the established tolerance range. All audit results should be captured and analyzed in a way that reaffirms the reliability of, or identifies and corrects problems with, the audit approach or the estimating procedures.

We believe that such approaches, if carefully designed and documented (including provisions for effective monitoring) could result in a valid statistical sampling program under the authority of 31 U.S.C. § 3521(b), and we would be pleased to further consider such a proposal.

*for*   
Comptroller General  
of the United States